

If it has been stated that the last branches of floating Sargassum are paler, more delicate, and more active in their vitality; I believe that to be no real observation, but only a supposition, for the more delicate and more branched ends become certainly pale at first, and with the diminution of chlorophyll can never increase their vitality. Does any one know in what time the olive-coloured broken Sargassum gets pale, and if pale Sargassum does really sprout to some extent, which I doubt, how long it continues to sprout? and further, after what time do the dead round air-vesicles of Sargassum break off? I should wish these questions cleared up by personal observations.

Leipzig-Eutritzsch, Germany

OTTO KUNTZE

### Remarkable Prediction of Cold

IN NATURE, vol. xxi. p. 48, in the Meteorological Notes, it is stated, on the authority of Mr. Glaisher, that the present unusually cold weather set in on October 27, 1878. You perhaps are not aware that this was predicted almost to the day by Prof. Piazzì Smyth in NATURE, vol. v. p. 317. In an article on Heat Waves he gives the dates of these phenomena as follows:—Years 1834'8, 1846'4, 1857'8, 1868'8, and 1880'0; the heat wave of 1880 to be preceded by a cold wave commencing 1878'8, which is, I need scarcely say, the end of October, 1878.

Dulwich, November 17

B. G. JENKINS

### The Lizard

LAST August, while superintending the burning of some dry bush in my pasture, I was surprised to see a ground lizard (*Laerta agilis*) run up to the flames and stop on a bed of hot ashes. My little son who was with me endeavoured to turn it aside with a stick, but on his trying to do so, it darted into the fire and was soon consumed. This I thought at the time accidental, but later in the day we returned to the same spot, and in a few minutes a larger lizard of the same species deliberately ran up to the burning bush; it paused on the warm ashes wagging its tail to and fro, apparently enjoying the heat, when all of a sudden it darted into the flames, and like the first one was instantly a willing holocaust. I turned to the Negro, who was burning the bush, for explanation, but like most of his race he accepted the fact as a matter of course, remarking "lizard seem to love fire." My ideas went back to the legends of the salamander. The story of the French consul at Rhodes (M. Pothonier), who one day found his cook in a terrible fright thinking the "devil was in the fire," and when he looked into the bright flames, saw there a little animal with open mouth and palpitating throat, and on trying to secure it with the tongs, it ran into a heap of hot ashes. He secured it and gave it to Buffon, who found it to be a small lizard, whose feet and a portion of the body were half roasted. M. Pothonier first thought it was incombustible, having remained in the fire three minutes, but imagined that it might have been brought in with the fuel. Nicander, Dioscorides and Pliny, all allude to the fire-proof qualities of the "salamandra." Aristotle speaks of the salamandra's power of extinguishing fire with the copious secretion of saliva which it has the power of ejecting into the flames. As far as my own observation goes all lizards have the power of ejecting saliva. The Negroes have a dread of the croaking lizard's (*Gecko*) "spitting" at them. I do not believe that any Jamaica lizard has *poisonous* saliva, but that the saliva is deleterious, I am quite sure. That cats get "fits" from eating lizards is a well accepted fact, their hair falls out, and they become sick and droop, confirming the belief in the depilatory properties of the salamander's saliva. As Martial puts it (Lib. ii. Ep. lxi.):—

"Desine jam, Lalage, tristes ornare capillos,  
Tangat et insanum nulla puella caput.  
Hoc salamandra potet, vel sæva novacula nudet,  
Ut digna speculo fiat imago tuo."

Before closing these jottings, I should like to correct an error in a recent work on Natural History, in which it is stated that "the *Iguana* is extinct in Jamaica." This is not the case. They are still to be found in numbers on the Cashew trees in the lowlands, especially St. Catherine's. I once had a long fight in trying to pull a large one out of a hole in a tree, by the tail. He won the battle "by the skin of his tail."

Monatree, St. Andrew, Jamaica, W.I., JASPER CARGILL  
October 14

### The "Hexameter," Πᾶσα δόσις ἀγαθή . . . κ.τ.λ.

IT is surely no argument against Prof. Clerk Maxwell's notion, that in the epistle (James i. 17) the enclitic particle *τε* is omitted. Read, of course,

Πᾶσα δόσις τ' ἀγαθή καὶ πᾶν δῶρημα τέλειον,

and the verse is perfect. The practice of omitting a word (or part of a word) necessary to the scansion of a verse is all too common with prosists quoting poetry. I give one example from an English writer. Robert Greene, the earliest to allude to Shakespeare, in his "Groatworth of Wit bought with a Million of Repentance" (1692), quotes, just as if they were prose, six lines from a contemporary poet; and in so doing inserts two words and omits two and part of another! He writes, as prose, omitting all that I here give in italics—

"Then only Tyrants should possess the earth,  
Who striving to exceed in tyranny,  
Should each to other be a slaughter-man;  
Untill the mightiest outliving all,  
One stroke were left for Death, that in one age  
Man's life should end."

I am pleased to learn from the obituary notice in NATURE of that great man, that Clerk Maxwell's thoughts during his illness reverted to a play of Shakespeare's; but had he less profitably thought of Greene's assault on Shakespeare, and had it struck him that the foregoing must be in heroic verse, what would be thought of the critic who should object to this, that the first and fourth of these so-called verses are, by one syllable each, too short?

Athenæum Club, November 22

C. M. INGLEBY

It cannot be supposed that our translators meant to compose a verse when they wrote the line which Longfellow transfers bodily into his "Evangeline":—

"Husbands, love your wives, and be not bitter against them."

So the metrical cadence here may be quite accidental. Still I cannot think that the defect of quantity in the final syllable of *δόσις* is fatal to the idea that it may be a line from an early Christian doxology: especially when we suppose it written in Alexandrian or Hellenistic Greek. The arsis, or natural stress of the voice, would cover up the defect, especially in chanting; and it would scarcely be a defect at all to non-classical ears. The process which rapidly from the Christian era substituted stress or accent, as we now understand it, for quantity, seems to have been greatly accelerated by the hymns of the Church. In any case every trace of such quotations is of great interest to every student of the New Testament.

HENRY CECIL

Bregner, Bournemouth, November 22

### Unconscious Cerebration

I HAVE delayed noticing a communication, headed Unconscious Impressions, by Mr. C. J. Monro, in NATURE, vol. xx. p. 426. This refers to what Dr. Carpenter calls Unconscious Cerebration, but which when I discovered it likewise, I called Unconscious Thought.

With Mr. Monro's conclusion that an unconscious impression is stronger than a conscious one, his statement does not impress me, nor is it supported by my own experience.

My attention had been recalled to the subject by observing children, and in their actions it appears to me we may find the beginning of the process of unconscious cerebration. So far it appears that conscious cerebration precedes and lays the foundation for the unconscious process. When a baby is practising, as for instance in handling an object, its attention is closely given in the early stages and in its various experiments, and it is only after a time that the performance becomes purely mechanical.

The same is to be noted of young animals.

Hence I conclude that as various practices become habitual, and, as some style them, instinctive, conscious cerebration ceases to be employed. Thus is formed the habit of only regarding some objects consciously, and necessarily that of regarding others without cerebration. Thus I treat unconscious cerebrations as becoming habitual.

HYDE CLARKE

32, St. George's Square, S.W., November 20

### Mr. Thomas Bolton's Natural History Discoveries

I ONLY became aware on Saturday evening last, the 15th inst., of the paragraph kindly inserted by Prof. E. Ray Lankester,

F.R.S., as editor, in the *Quarterly Journal of Microscopical Science* for October, in reference to my studio and agency for the supply of microscopic organisms. Of course I have to thank him most sincerely for calling the attention of naturalists to my efforts, and so strongly calling on them to support me, but he has given me credit in some directions which is due to other naturalists to whom I am under considerable obligations. I wish to correct this view at once by writing to your periodical in preference to waiting till the next number of the *Quarterly* can appear. Prof. Lankester's language may lead those who have not seen other reports to put down the actual first finding of several organisms new to the British fauna to me, whereas several of them were first picked up by others.

The *Leptodora* was found at Olton during a visit made by a party of the Birmingham Natural History and Microscopical Society on July 26. Whilst the president, Mr. Graham, the curators, Messrs. Levick and Lloyd, some other members, and myself, were searching the pool from a boat, Mr. Levick's unusually sharp eyes first called the attention of the others to some lively organism in his bottle, which he at first thought to be a larva, and Mr. Graham was, I believe, the first to suggest that it was probably a larval form of an Entomostracan. After this they were collected in large numbers with the net. As soon as possible I asked my friend Mr. Forrest to make a drawing, which I had printed, and drew up a short account of it for my subscribers, describing it as a larval form of one of the Entomostraca; but before I had finished writing this I found one carrying four large eggs in the second segment of the body, which fact I added to my description, and which I pointed out would lead to the supposition that it was no larva, but a mature animal. I sent the specimens out on August 1, and the earliest notice I had from my subscribers was from Sir John Lubbock, F.R.S., who wrote by return to say he was much interested in the curious crustacean which he believed to be new to this country, and on August 6 Prof. Lankester wrote to say the crustacean I had sent was the *Leptodora hyalina*. In looking over the water in which we had taken the *Leptodora*, I found another Entomostracan which was new to me, and I called Mr. Forrest's attention to it, and gave him some specimens which he took home and studied, and finding no trace of them in Baird's "Entomostraca," he made a drawing of it and drew up a description of it for the *Midland Naturalist* of September, under the name of *Daphnia bairdii*. With permission of the editor I distributed copies of this plate and description, with living specimens, to my subscribers on August 8, and on the 13th Prof. Lankester wrote me to say "the beautiful *Daphnia bairdii* of Mr. Forrest is the already described *Hyalodaphnia kahlbergensis* of Schödler" (see Mr. Forrest's further remarks, *Mid. Nat.*, November, page 281). In looking over Prof. Lankester's remarks, I was surprised to see his account of the new Protozoan, which reminded me that on April 30 he had written to me saying that the Amœbæ gathering was very interesting, and asking me to send him a good lot more, as he thought he had found something new, but I could only send him a small tube more, as this, together with the large Amœbæ to which he refers, came from a small beaker aquarium in the study of my friend Mr. Levick.

I must apologise for having taken up so much of your space, but in fairness to Mr. Levick and Mr. Forrest, I could not well let the report pass without comment, giving them full credit of first finding the objects; but at the same time I cannot help thinking that the discoveries (if ever published) would have been much longer before they had been brought before the scientific world, had it not been for the distribution of the specimens through my agency. As it is, however, my wish not to take more credit than is due, I shall always be glad to point out the first finders of organisms which may be entrusted to me for distribution, and which may afterwards turn out to be of any special interest.

In furtherance of Prof. Lankester's kind appeal to naturalists for the pecuniary support of my agency, I must really ask them to act upon it, as, so far, my studio is not sufficiently remunerative to induce me to persevere with it much longer, as my receipts for the last year have barely covered my office rent, collecting, and incidental expenses.

THOMAS BOLTON

17, Ann Street, Birmingham, November 19

#### Intellect in Brutes

THE following is a curious instance of discrimination, which I have observed in my bullfinch. He is in the habit of coming out

of his cage in my room in the morning. In this room there is a mirror with a marble slab before it, and also a very cleverly-executed water-colour drawing of a hen-bullfinch, life-size. The first thing which my bullfinch does on leaving his cage is to fly to the picture (perching on a vase just below it), and pipe his tune in the most insinuating manner, accompanied with much bowing to the portrait of the hen-bullfinch. After having duly paid his addresses to it, he generally spends some time on the marble slab in front of the looking-glass, but without showing the slightest emotion at the sight of his own reflection, or worthy it with a song. Whether this perfect coolness is due to the fact of the reflection being that of a cock-bird, or whether (since he shows no desire to fight the reflected image) he is perfectly well aware that he only sees himself, it is difficult to say.

SOPHIE FRANKLAND

#### "Asia Minor" in the "Encyclopædia Britannica"

IN the article on "Asia Minor" in the new edition of the "Encyclopædia Britannica," in speaking of Tchihatcheff's "Asie Mineure," the writer says: "But those [vols.] which should have contained the geology and the archaeology have never been published." As this may mislead some of your readers it may be worth recording the fact that the part on geology was published in 1867-69; and the palæontological division in 1866-69.

J. B. B.

Oxford

#### ON THE SOLUBILITY OF SOLIDS IN GASES<sup>1</sup>

THIS investigation was undertaken in the hope that, by an examination of the conditions of liquid matter up to the "critical" point, sufficient knowledge might be gained to enable us to determine under what particular conditions liquids are dynamically comparable, in order that the microrheometrical method<sup>2</sup> (which the Royal Society has done one of us the honour of publishing in the *Philosophical Transactions*) might be applied to determine their molecular mass and energy relations. It seemed that as the laws relating to gases and liquids merge at what was called by Baron Cagniard de la Tour<sup>3</sup> "l'état particulier," and by Dr. Andrews<sup>4</sup> the "critical point," an examination of matter up to the limit of the liquid state would be likely to yield us much information. The time we have to devote to scientific work being very limited, we found that it was quite impossible to make much advance by using the apparatus devised by Dr. Andrews, as the time required to change from one liquid to another was more than we had at our disposal. We therefore devised a new apparatus, which will be described in a more lengthy communication, but which, we may state, can be opened, the liquid changed, and again closed for a new experiment, in about one minute.

The question as to the state of matter immediately beyond the critical point being considered by Dr. Andrews to be at that time incapable of receiving an answer, we imagined that some insight might be gained into its condition by dissolving in the liquid some solid substance whose fusing point was much above the critical point of the liquid, and noticing whether, on the latter passing its critical point and assuming the gaseous condition, the solid was precipitated or remained in solution. We found that the solid was not deposited but remained in solution, or rather in diffusion, in the atmosphere of vapour, even when the temperature was raised 130° above the critical point, and the gas was considerably expanded. When the side of a tube containing a strong gaseous solution of a solid is approached by a red hot iron, the part next the source of heat becomes coated with a crystalline deposit which slowly redissolves on allowing the local disturbance of temperature to disappear. Rarefaction seems to be the cause of this deposition, because if

<sup>1</sup> By J. B. Hannay, F.R.S.E., F.C.S., and James Hogarth. Read at the Royal Society, November 20.

<sup>2</sup> "On the Microrheometer," *Phil. Trans. Roy. Soc.*, 1879.

<sup>3</sup> *Ann. Chim.*, series 2me, xxi. p. 127; xvii. p. 410.

<sup>4</sup> "Bakerian Lecture," *Phil. Trans. Roy. Soc.*, 1869, p. 588.